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COSTS and RETURNS

Commercial Wheat Farms

Pacific Northwest
Northern Plains
Southern Plains

1966

FARM COSTS STUDIES

This report is part of a continuing nationwide study of costs and returns on commercial farms and ranches by type and size in some of the important farming regions of the United States. The study is conducted under the general supervision of Wylie D. Goodsell, Farm Production Economics Division, Economic Research Service. Objectives, methodology, procedure, and terms are uniform for all areas covered in the study.

The 1966 costs and returns studies have been conducted on the following:

Dairy Farms, Northeast and Midwest
Corn Belt Farms
Egg-Producing Farms, New Jersey
Broiler Farms, Maine, Delmarva, and Georgia
Cotton Farms
Tobacco Farms, Coastal Plain, North Carolina
Tobacco-Livestock Farms, Bluegrass Area, Kentucky and Pennyroyal Area, Kentucky-Tennessee
Wheat Farms, Plains and Pacific Northwest
Western Livestock Ranches

Summary statistics for all types of farms in the study are presented in a report, revised annually. The latest such report was published in 1966 and is titled: "Farm Costs and Returns, Commercial Farms, by Type, Size, and Location," Agriculture Information Bulletin No. 230, Revised 1966.

Information on the studies can be obtained from Farm Production Economics Division, Economic Research Service, U.S. Department of Agriculture, Washington, D.C. 20250.

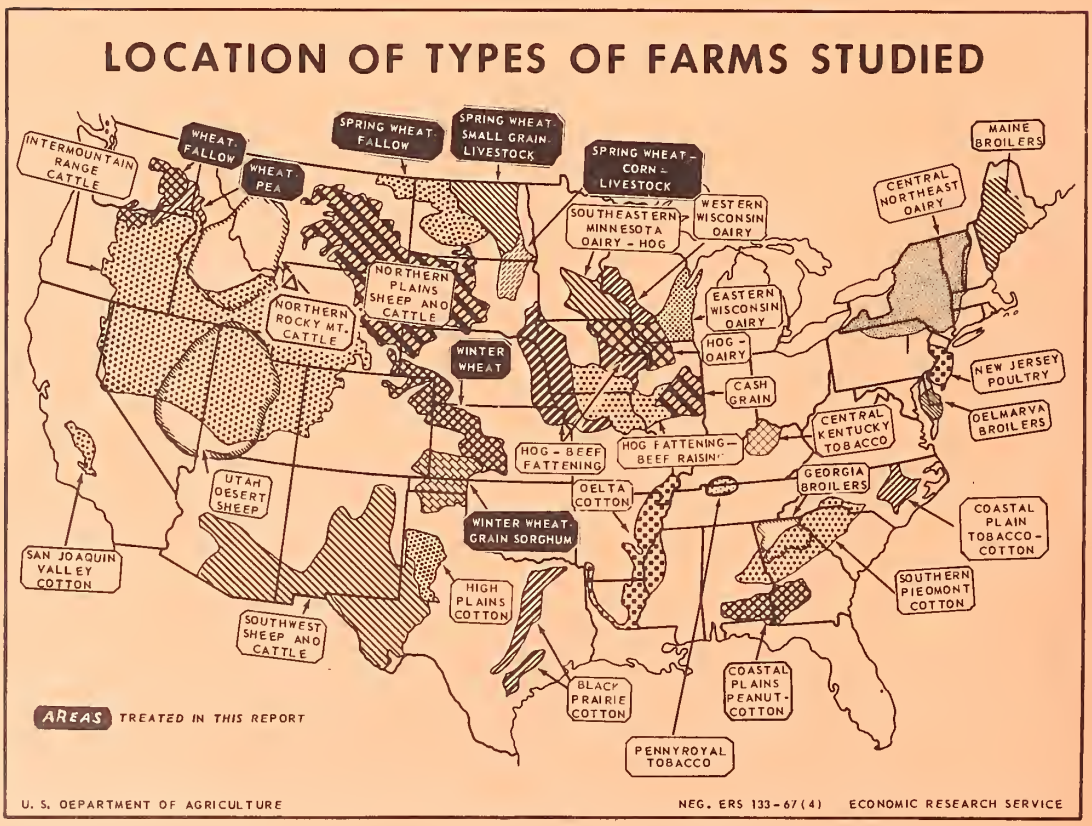

Figure 1

COSTS AND RETURNS, COMMERCIAL WHEAT FARMS, PACIFIC NORTHWEST, NORTHERN PLAINS, AND SOUTHERN PLAINS, 1966

Edgar B. Hurd and Margaret I. Robinson[1]

Net farm incomes on commercial wheat farms analyzed by the Economic Research Service averaged higher in 1966 than in 1965 and in 1957-59 (table 1). They were record high in the Pacific Northwest and on the wheat-corn-livestock and wheat-fallow farms in the Northern Plains.

Costs and returns for 1966 on median-sized commercial wheat farms in 7 main wheat-producing areas (fig. 1) are reported, analyzed, and compared with earlier years. While the farm organization, production, incomes, and cost rates presented here are in terms of farms of median size, conclusions apply to some extent to other farms in these areas.

Table 1.--Net farm income on wheat farms, average 1957-59, 1965, and 1966

Area	Net farm income			Income index (1957-59 = 100)	
	Average 1957-59	1965	1966	1965	1966
	Dollars	Dollars	Dollars	Percent	Percent
Pacific Northwest:					
Wheat-fallow farms	15,755	14,171	22,057	90	140
Wheat-pea farms	13,458	18,874	23,455	140	174
Nothern Plains:					
Wheat-fallow farms	2,908	10,017	12,782	344	440
Wheat-small grain-livestock farms	4,401	9,716	10,500	221	239
Wheat-corn-livestock farms	5,854	10,774	11,708	184	200
Southern Plains:					
Winter wheat farms	9,137	11,014	11,546	121	126
Wheat-grain sorghum farms	6,858	11,789	12,731	172	186

[1] Agricultural Economist and Statistical Assistant, respectively, Farm Production Economics Division, Economic Research Service, U.S. Department of Agriculture.

Nearly all the cropland in the wheat-fallow area, which is located in the Big Bend of the Columbia River and adjacent counties, is used for the production of grain, mostly wheat; and most cropland has a 2-year rotation--alternating grain and summer fallow.

The wheat-pea area, located in Washington and Idaho, is limited to areas producing dry-edible peas and lentils. The acreage in peas and lentils, summer fallow, and green manure is farmed in rotation with grain in the wheat-pea area. Since 1960, the acreage of harvested grain varied between 62 and 73 percent of the total acreage harvested. Wheat is usually grown after summer fallow or peas and is seldom grown on the same field 2 years in succession. If 2 successive grain crops are desired, barley is the most frequent choice for the second crop. Since 1960, the acreage in green manure and other summer fallow has exceeded the acreage in peas. However, the acreage in peas can be expanded readily by reducing the acreage in summer fallow or wheat if conditions warrant.

Although the wheat-pea farms tend to be smaller than the wheat-fallow farms, they have a higher proportion of farmland in cropland and harvest a higher proportion of their cropland (table 2). Furthermore, yields per acre are greater in the wheat-pea area than in the wheat-fallow area. For these reasons, land is more expensive in the wheat-pea area. In 1957-59, the average acre in the wheat-pea area cost $267; in 1965, $316; and in 1966, $329. The corresponding values for the wheat-fallow area are $80 in 1957-59, $110 in 1965, and $113 in 1966. In general, typical wheat-pea farms would cost more than wheat-fallow farms. In 1966, land on the wheat-pea farm was valued at $202,340 and the wheat-fallow farm at $171,760. In both areas, the value of the real estate comprises most of the value of the farm capital.

According to the definition used in the U.S. Census of Agriculture, the median-sized wheat-fallow farm and wheat-pea farm both would be classified as class II cash grain farms, although the wheat-fallow farm is more specialized. In 1957-59, income from wheat comprised 71 percent of gross income on the wheat-fallow farm and 56 percent on the wheat-pea farm. Since 1957-59, the proportion of the income derived from the sale of wheat declined on both farms. On wheat-fallow farms, income from wheat in 1965 and 1966 amounted to 59 and 58 percent of gross income. On wheat-pea farms, income from wheat in 1965 and 1966 amounted to 46 and 44 percent of gross income.

The shift in Government programs from support prices to direct payments accounted for the decline in income credited to wheat. In 1957-59, Government payments amounted to about 1 percent of gross income on wheat-pea farms and 2 percent on wheat-fallow farms. The 1965 and 1966 Government payments amounted to 10 and 12 percent of gross income on wheat-pea farms and to 20 and 19 percent on wheat-fallow farms.

Most of the year-to-year changes in net farm income on these farms are due to corresponding changes in factors affecting gross income--yield, harvested acreage, and prices received. Since 1950, changes in production accounted for most of the

changes in gross income. On wheat-pea farms, production has been increasing since 1950 at the rate of 4.1 percent per year, while gross income increased at the rate of 3.5 percent. On wheat-fallow farms, the rate of increase has been slower: production increased at the rate of 1.9 percent per year and gross income at 1.5 percent. The rate of increase in gross income has been reduced on both farms by decreases in prices received for goods sold. The index of prices received (1957-59 = 100) in the wheat-fallow area averaged 114 in 1950-54, and 92 in 1962-66. In the wheat-pea area, the prices received index declined from 115 in 1950-54 to 96 in 1962-66.

Farm expenses as well as incomes, have been increasing on both wheat-pea and wheat-fallow farms (fig. 2). On the median wheat-fallow farm, expenses averaged 23 percent more in 1962-66 than in 1950-54. All of this increase was the result of higher prices for goods and services used in production. The quantity of cash inputs during this period declined 2 percent, while prices paid increased 25 percent. Farm expenses on the median-sized wheat-pea farm averaged 59 percent more in 1962-66 than 1950-54: farm inputs, 33 percent more; and prices paid, 20 percent more.

Except for occasional years when crop yields were below average, the efficiency of both types of farms has increased. The index of the output per unit of input on wheat-fallow farms increased from 80 in 1950-54 (1957-59 = 100) to 96 in 1962-66. On wheat-pea farms, the index increased from 92 in 1950-54 to 113 in 1962-66.

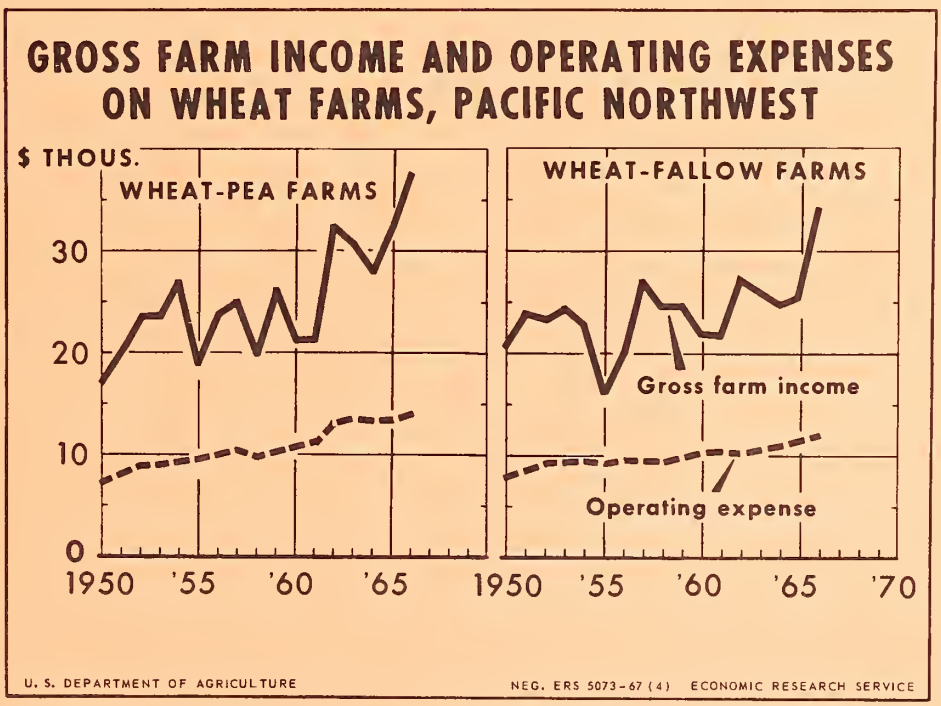

Figure 2

Table 2.--Organization, production, costs and returns, wheat farms, Pacific Northwest, 1966, with comparisons

Item	Unit	Wheat-fallow farms			Wheat-pea farms		
		Average 1957-59	1965	1966 1/	Average 1957-59	1965	1966 1/
Land in farm	Acre	1,352	1,490	1,520	557	610	615
Total cropland	do.	967	1,088	1,114	514	555	560
Cropland harvested	do.	477	460	520	371	388	412
Crops harvested:							
Wheat	do.	309	382	392	169	193	189
Peas	do.	0	0	0	79	78	103
Other small grains	do.	152	59	98	104	92	94
All hay	do.	16	19	30	19	25	26
Crop yields per acre:							
Wheat	Bushel	32.7	29.5	32.5	46.8	66.1	58.8
Peas	Pound	---	---	---	1,333	1,810	1,500
Barley	Bushel	33.9	40.6	40.9	41.1	51.2	51.9
All hay	Ton	1.5	1.5	1.2	1.8	1.8	1.3
Livestock on farm, Jan. 1:							
All cattle	Number	30.8	36.3	37.3	15.1	19.5	19.6
Milk cows	do.	.9	1.2	1.2	1.8	.7	.6
Beef cows	do.	13.5	14.4	11.6	5.8	6.7	6.8
Steers, 1 year old and over	do.	2.9	4.8	7.5	.7	4.6	3.9
Calves, under 1 year	do.	9.8	10.6	12.6	5.0	5.2	6.5
Chickens	do.	37	25	25	48	24	23
Pigs raised	do.	9.4	12.8	12.3	18	32	38
Hired labor	Day	80	50	51	85	59	53
Total farm capital, Jan. 1	Dollar	129,780	189,550	199,170	170,200	220,110	231,220
Land and buildings	do.	107,620	163,900	171,760	149,300	192,760	202,340
Machinery and equipment	do.	16,740	20,380	20,970	17,020	24,080	24,870
Livestock	do.	3,670	4,190	5,140	2,110	2,240	2,880
Crops	do.	1,750	1,080	1,300	1,770	1,030	1,130

Item	Unit	Wheat-fallow farms			Wheat-pea farms		
		Average 1957-59	1965	1966 1/	Average 1957-59	1965	1966 1/
Gross farm income	Dollar	25,404	25,561	34,129	23,696	32,339	37,502
Crops 2/	do.	21,704	16,688	23,580	20,188	25,127	28,282
Wheat	do.	17,918	14,966	19,840	13,345	14,811	16,451
Peas	do.	0	0	0	3,905	5,966	7,061
Other small grains	do.	3,786	1,722	3,740	2,938	4,350	4,770
Livestock and livestock products 2/	do.	2,744	2,962	3,306	2,403	2,898	3,702
Beef cattle	do.	2,013	2,011	2,175	1,001	1,215	1,645
Milk	do.	183	293	319	489	211	173
Poultry and eggs	do.	205	121	153	266	123	145
Hogs	do.	343	537	659	647	1,349	1,739
Other income:							
Government payments	do.	583	5,100	6,524	264	3,182	4,662
Miscellaneous	do.	373	811	719	841	1,132	856
Farm expenditures	do.	9,649	11,390	12,072	10,238	13,465	14,047
Feed and other livestock expense	do.	302	586	344	449	453	647
Seed and other crop expense	do.	1,739	2,041	2,239	1,786	3,290	3,489
Machinery depreciation and operating expense 2/	do.	4,852	5,627	5,979	5,235	6,462	6,674
Farm buildings and fences 2/	do.	457	461	511	445	463	473
Hired labor	do.	1,248	842	915	1,117	1,028	973
Taxes	do.	970	1,731	1,976	1,037	1,538	1,560
Other	do.	81	102	108	169	231	231
Net farm income	do.	15,755	14,171	22,057	13,458	18,874	23,455
INDEX NUMBERS (1957-59=100):							
Gross farm income	---	100	101	134	100	136	158
Net farm income	---	100	90	140	100	140	174
Net farm production	---	100	100	118	100	137	133
Crop yields	---	100	85	98	100	130	121
Production per unit of input	---	100	92	105	100	122	118
Prices received for products sold	---	100	80	94	100	87	100
Prices paid, including wages to hired labor	---	100	110	115	100	108	109

1/ Preliminary. 2/ Adjusted for inventory change.

Note: Information presented here is for owner-operator basis primarily for comparability between types of farms. Net farm income is the return to operator and unpaid members of his family for their labor and management on the farm and return to total capital. No allowance has been made for payment of rent, interest, or mortgage.

The composition of farm inputs has changed radically on both farms since 1950.

The average size of wheat-fallow farms in 1950 was 1,331 acres and for the next few years remained at about the same level. Beginning in 1955, these farms started to increase in size by about 1 percent a year. In 1966, they were estimated to be 1,520 acres.

Hired labor on wheat-fallow farms has declined from 134 days in 1950 to 51 days in 1966. This decline, coupled with fewer farms, has reduced the amount of hired labor in the area by two-thirds. Cash inputs other than hired labor have just about kept pace with the increase in size of farms. In terms of 1957-59 prices, the cost of these inputs have remained near $6 per acre.

The amount of farm machinery per acre has varied considerably since 1950. When new machines (like the diesel tractor or the self-propelled combine) are first bought, outlays for these machines may be relatively large. After a few years, when depreciation outweighs purchases, inputs per acre tend to decline.

The median-sized wheat-pea farm has been increasing in size for many years. In 1950, this farm had 482 acres and in 1966, 615 acres--an increase of 28 percent in 17 years. As in the wheat-fallow area, during these years, hired labor per acre has declined almost two-thirds. However, in the wheat-pea area, other cash inputs and quantity of machines in use have increased per acre. From 1950-54 to 1962-66, the index of cash inputs per acre (other than hired labor) increased 20 percent, and the index of the investment per acre increased 16 percent.

Wheat-Fallow Farms, 1966

Net farm incomes of wheat-fallow farms in 1966 averaged about $22,000, the highest on record. This was 56 percent higher than in 1965 and 40 percent higher than in 1957-59. In 1966, farm production was 18 percent higher than in 1965, due to higher yields and more acreage harvested. Government payments were about $6,500 in 1966, compared with $5,100 in 1965 and $583 in 1957-59. Payments for participation in Government programs have helped maintain farm income. Prices received for products sold in 1966 were 18 percent higher than in 1965, but 6 percent lower than in 1957-59. Prices paid for goods and services purchased by these farmers averaged 5 percent higher in 1966 than in 1965 and 15 percent higher than in 1957-59.

Wheat-Pea Farms, 1966

Net farm income on wheat-pea farms was about $23,500 in 1966, 24 percent larger than in 1965 and 74 percent larger than in 1957-59. Production was 3 percent lower than in 1965 but 33 percent higher than in 1957-59. Harvested acreage was 6 percent larger than in 1965 and 11 percent larger than in 1957-59. Crop yields declined 7 percent from 1965 but were 21 percent higher than in 1957-59. Farm expenses in 1966 averaged 4 percent higher than in 1965 and 37 percent higher than in 1957-59. The index of prices received for products sold was 15 percent higher than in 1965, but about the same as in 1957-59. Prices paid for goods and services purchased were 1 percent higher than in 1965 and 9 percent higher than in 1957-59.

Farm organization, costs and returns are analyzed for 3 areas in the Northern Plains (table 3). The production of wheat predominates in the spring wheat-fallow area. The wheat-small grain-livestock area produces barley as the second most important crop. In the wheat-corn-livestock area, flax and oats are the next most important crops.

Farm incomes in the Northern Plains differ considerably (fig. 3). For most years in the decade, 1957-66, median farm incomes in the wheat-small grain-livestock and spring wheat-fallow area were smaller than in the wheat-corn-livestock area.

Incomes of the wheat-corn-livestock farms fluctuated less than incomes of the other 2 types of farms. The wheat-corn-livestock area has more of a balance between late and early maturing crops than the other 2 areas; this tends to add stability to the farm income. Also, the wheat-corn-livestock area has considerably more income from livestock and livestock products--income from livestock tends to be more stable than income from crops. Increases in the proportion of the farm income derived from livestock or livestock products were due to declines in income derived from cash crops more often than from increases in livestock production.

Although operating expenses and land values have increased in the Northern Plains during recent years, they have not increased in proportion to the increase in farm income. Between 1957-60 and 1962-66, farm

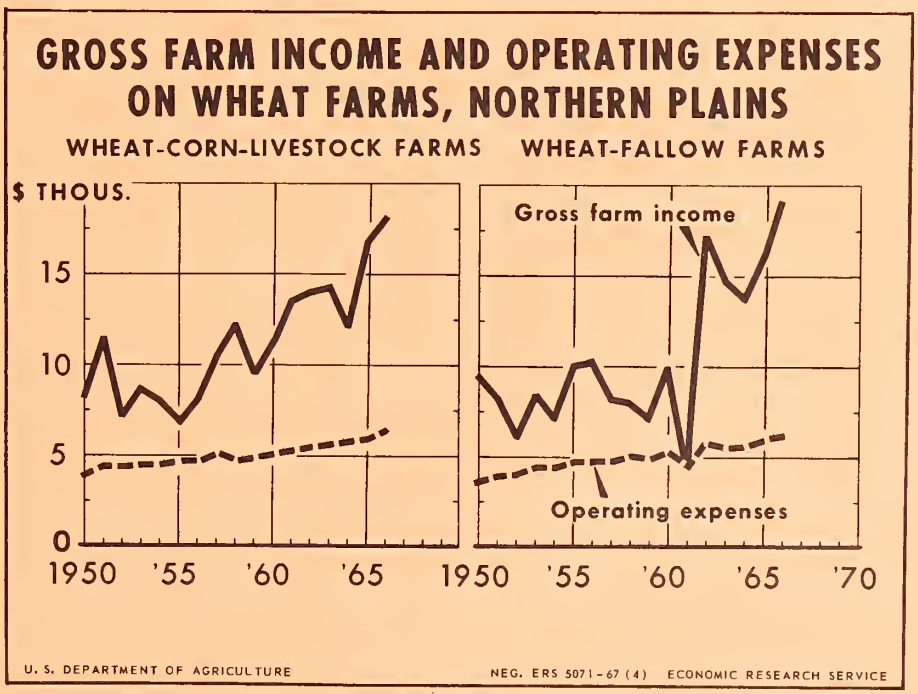

Figure 3

Table 3.--Organization, production, costs and returns, wheat farms, Northern Plains, 1966, with comparisons

Item	Unit	Wheat-fallow farms			Wheat-small grain-livestock farms			Wheat-corn-livestock farms		
		Average 1957-59	1965	1966 1/	Average 1957-59	1965	1966 1/	Average 1957-59	1965	1966 1/
Land in farm	Acre	761	881	899	705	760	770	506	550	555
Total cropland	do.	577	643	656	561	616	616	378	408	408
Cropland harvested	do.	342	355	385	401	413	397	331	320	320
Crops harvested:										
Wheat	do.	154	192	198	142	152	153	49	35	36
Other small grains	do.	110	88	106	126	113	116	99	85	87
Flaxseed	do.	24	21	21	59	40	38	37	51	54
Corn, for all purposes	do.	6	3	3	14	13	11	61	71	67
Tame hay	do.	22	27	32	26	53	42	49	45	45
Wild hay	do.	26	24	25	34	42	37	36	33	31
Crop yields per acre:										
Wheat	Bushel	15.7	28.0	25.6	17.8	25.8	24.5	16.7	19.6	20.1
Flaxseed	do.	3.5	12.8	12.6	5.1	12.3	9.9	7.6	14.0	8.9
Corn for grain	do.	---	---	---	---	---	---	25.5	35.0	49.0
All hay	Ton	.9	1.3	1.3	.9	1.2	1.2	1.1	1.4	1.4
Livestock on farm, Jan. 1:										
All cattle	Number	19.8	34.8	33.8	22.6	32.2	31.6	45.8	66.4	68.9
Milk cows	do.	3.4	2.6	2.5	5.8	3.4	2.9	7.6	8.2	8.4
Beef cows	do.	7.5	13.8	14.7	7.0	12.6	12.8	13.2	20.8	19.4
Steers, 1 year old and over	do.	.9	2.4	1.8	1.0	2.1	2.0	3.7	6.6	49.0
Calves, under 1 year	do.	5.5	11.3	11.0	6.1	10.3	10.3	15.3	22.6	23.8
Chickens	do.	27	20	19	54	43	39	134	132	122
Pigs raised	do.	1.7	1.2	1.9	7.5	5.4	5.0	32	33	36
Hired labor	Day	24	24	23	44	30	28	32	20	20
Total farm capital, Jan. 1	Dollar	45,360	71,490	77,830	46,400	64,900	70,890	48,710	68,030	74,080
Land and buildings	do.	32,280	55,150	60,230	30,940	47,120	51,590	30,000	46,200	48,560
Machinery and equipment	do.	9,320	10,390	11,190	10,650	11,830	12,630	8,990	9,600	9,990
Livestock	do.	2,590	4,120	4,800	3,250	3,870	4,560	6,840	8,580	11,380
Crops	do.	1,170	1,830	1,610	1,560	2,080	2,110	2,880	3,650	4,150

Item	Unit	Wheat-fallow farms			Wheat-small grain-livestock farms			Wheat-corn-livestock farms		
		Average 1957-59	1965	1966 1/	Average 1957-59	1965	1966 1/	Average 1957-59	1965	1966 1/
Gross farm income	Dollar	7,790	15,920	18,981	10,228	15,886	16,901	10,775	16,718	18,103
Crops 2/	do.	5,251	10,477	12,011	6,830	9,640	10,021	4,258	5,700	5,757
Wheat	do.	4,188	7,295	8,247	4,638	5,276	6,140	1,693	943	1,144
Other small grains	do.	878	2,462	3,009	1,408	3,060	2,816	1,288	1,814	1,085
Flaxseed	do.	185	720	755	784	1,304	1,065	723	1,947	1,345
Corn	do.	0	0	0	0	0	0	554	996	2,183
Livestock and livestock products 2/	do.	1,670	2,469	2,869	2,559	2,705	3,029	5,753	8,531	10,389
Beef cattle	do.	1,106	1,937	2,292	1,501	1,842	2,121	2,916	4,278	5,352
Milk	do.	410	375	427	603	500	514	853	1,684	2,089
Poultry and eggs	do.	95	74	85	185	150	170	483	451	554
Sheep and wool	do.	0	0	0	0	0	0	232	233	251
Hogs	do.	59	83	65	270	213	224	1,269	1,885	2,143
Other income:										
Government payments	do.	514	2,451	3,470	450	2,627	2,971	468	1,416	1,389
Miscellaneous	do.	355	523	631	389	914	880	296	1,071	568
Farm expenditures	do.	4,882	5,903	6,199	5,827	6,170	6,401	4,921	5,944	6,395
Feed and other livestock expense	do.	143	145	152	131	110	146	526	712	809
Seed and other crop expense	do.	469	639	688	608	851	744	441	624	769
Machinery depreciation and operating expense 2/	do.	3,224	3,545	3,743	3,697	3,766	4,009	2,639	2,904	3,069
Farm buildings and fences 2/	do.	236	321	333	318	283	291	313	292	295
Hired labor	do.	252	281	272	450	354	336	260	190	203
Taxes	do.	512	822	861	576	746	815	654	988	1,004
Other	do.	46	150	150	47	60	60	88	234	246
Net farm income	do.	2,908	10,017	12,782	4,401	9,716	10,500	5,854	10,774	11,708
INDEX NUMBERS (1957-59=100):										
Gross farm income	---	100	204	244	100	155	165	100	155	168
Net farm income	---	100	344	440	100	221	239	100	184	200
Net farm production	---	100	216	212	100	155	143	100	143	140
Crop yields	---	100	192	179	100	168	151	100	145	139
Production per unit of input	---	100	187	184	100	156	141	100	133	126
Prices received for products sold	---	100	87	102	100	87	100	100	104	117
Prices paid, including wages to hired labor	---	100	111	113	100	109	112	100	112	114

1/ Preliminary. 2/ Adjusted for inventory change.

Note: Information presented here is for owner-operator basis primarily for comparability between types of farms. Net farm income is the return to operator and unpaid members of the family for their labor and management on the farm and return to total capital. No allowance has been made for payment of rent, interest, or mortgage.

expenses increased about 3 percent on wheat-small grain-livestock farms and about 16 percent on spring wheat-fallow and wheat-corn-livestock farms. During 1957-60, operating expenses on these farms accounted for 46 to 60 percent of gross income. In the period, 1962-66, farm expenses absorbed between 36 and 39 percent of the gross income.

Total farm capital on median-sized farms in 1962-66 was about 1.3 times larger than in 1957-60. However, this rate of growth is comparatively slow as shown by the fact that the net income per dollar of capital has tended to increase in the 3 areas; spring wheat-fallow from 7 cents in 1957-60, 24 cents in 1962-66, 10 to 16 cents in the wheat-small grain-livestock area; and 12 to 14 cents in the wheat-corn-livestock area.

The Northern Plains are relatively high-risk areas. This is particularly true in the spring wheat-fallow and wheat-small grain-livestock areas. In these areas there are years when returns are extremely low. In 1961, for example, the rate of return per dollar of capital in the spring wheat-fallow and wheat-small grain-livestock areas was less than one-half of 1 percent.

Most of the rise in farm expenses in the Plains between 1957-60 and 1962-66 is due to increased prices paid per unit purchased. Median-sized farms in the wheat-small grain-livestock area used fewer cash inputs in 1962-66 than in 1957-60.

Since 1950, fluctuations in net farm income in the Northern Plains are very largely associated with changes in production (fig. 4). This

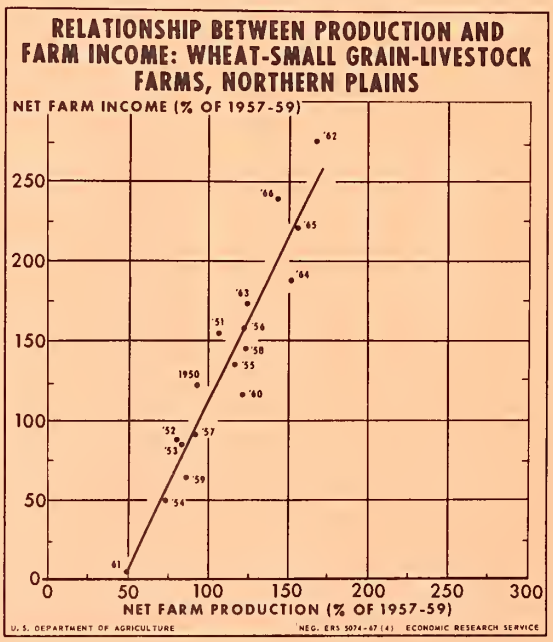

Figure 4

suggests that changes in prices, inputs or Government payments are either relatively minor or else compensating (table 4).

About 90 percent of the variations in net income of these median-sized Northern Plains farms during the 17 years, 1950-66, were associated with variations in production. Production had to be as high as 40-50 percent of 1957-59 for income to equal fixed and variable expenses. About 1 percent change in production produced a 2-percent change in net farm income.

Table 4.--Relationship between net farm income and net production, spring wheat farms, 1950-66

Item	Wheat-fallow farms	Wheat-small grain livestock farms	Wheat-corn-livestock farms
Percent of variation in income explained by variation in net production[1]	93	90	90
Net production required before income is produced (percent of 1957-59)	48	45	41
Percent increase in net income associated with 1 percent change in production	2.27	2.07	1.83

[1] Coefficient of correlation squared.

Spring Wheat-Fallow Farms, 1966

Net farm incomes on spring wheat-fallow farms of median size in 1966 averaged about $12,800, the highest on record. This income was 28 percent higher than in 1965 and 4.4 times larger than in 1957-59. Farm production in 1966 was near the record high set in 1965 and was more than 2 times larger than in 1957-59. Crop yields in 1966 averaged 7 percent lower than in 1965 but were 79 percent higher than in 1957-59. Government payments amounted to $3,470, compared with $2,450 in 1965 and $510 in 1957-59. Contributing to the higher income in 1966 was a 17-percent increase in prices received. Prices paid for goods and services used in production have been increasing steadily since 1950 and averaged 2 percent higher in 1966 than in 1965.

Wheat-Small Grain-Livestock Farms, 1966

Net farm incomes on wheat-small grain-livestock farms of median size averaged $10,500 in 1966. This was the second highest year of record on these farms, exceeded

only by $12,115 in 1962. The 1966 income was 8 percent higher than in 1965, and 2.4 times larger than in 1957-59. Prices received and Government payments were each 13 percent higher in 1966 than in 1965. These increases more than offset an 8-percent decline in production and a 3-percent increase in prices paid for goods and services used in production. The index of prices received in 1966 was about the same as in 1957-59, but Government payments were about $3,000, compared with $450 in 1957-59. Production was 43 percent higher in 1966 than in 1957-59, and prices paid for goods and services used in production were 12 percent higher.

Wheat-Corn-Livestock Farms, 1966

Net farm incomes on median-sized wheat-corn-livestock farms averaged about $11,700 in 1966, compared with $10,775 in 1965 and $5,850 in 1957-59. These incomes in 1966 were at a record high, 9 percent higher than in 1965 and double the 1957-59 average. Prices received for products sold were 12 percent higher in 1966 than in 1965 and 17 percent higher than in 1957-59. These higher prices were the chief reasons for the higher incomes in 1966. Farm production and Government payments were a little lower in 1966 than in 1965, but prices paid were a little bit higher.

SOUTHERN PLAINS

This analysis is based on median-sized farms in 2 parts of Kansas: the winter wheat and the wheat-grain sorghum areas. The center of the wheat-grain sorghum area is in southwest Kansas, and the center of the winter wheat area is in central Kansas.

Winter Wheat Farms, 1966

Throughout the winter wheat area on most median-sized farms from 1958-66, wheat comprised about 60 to 66 percent of the harvested acreage. Sorghum for grain and forage is the second most important crop. Hay crops on most of these farms usually average between 5 and 10 percent of the harvested acreage. Occasionally, a farmer may grow a field of barley and, in some sections, a little corn is normally produced.

Although the distribution of harvested crops tends to be approximately the same throughout the Southern Plains winter wheat area, there are some rather important differences in farm organization. Chief among these is the difference in the area per farm and the relative amount of summer fallow. Farms in northwest and western Kansas are larger, and more of their wheat is grown on summer fallow than in other sections. The median winter wheat farm as presented here has an average proportion of wheat to summer fallow, and the acreage per farm is more or less typical of farms in central Kansas.

The size of winter wheat farms has been increasing since settlement days due to farm consolidation. These farms had attained an average size of 560 acres by 1935, the section mark (640 acres) by 1945, 800 acres by 1962, and were estimated at 840 acres by 1966. Increased size reduced the variation between farms in crop yields, land use, and other phases of farm organization.

Cropland comprises about 74 percent of farmland on farms of median size (table 5). This proportion tends

to be larger on smaller farms. Since farms of median size are smaller than average, the proportion of cropland on these farms is larger than the area average. While the amount of cropland in the area tends to remain fixed, the harvested acreage is variable and is one of the reasons for year-to-year variation in incomes. From 1950 to 1966, cropland harvested averaged 46 percent of the farmland with an average variation equal to 4 percent of the farm area. In 1966, 44 percent of the land area was harvested, compared with 43 percent in 1965 and 47 percent in 1957-59.

The index of crop yields for the last 17 years averaged 90 percent of 1957-59 with a yearly variation of 26 index points. The yield index in 1966 was 13 percent or 17 index points below 1965, but 9 points higher than 1957-59.

Except for 1952, 1950-57, was a period of low incomes, primarily because of poor yields. During this period, yields and cropland harvested tended to vary in the same direction. Beginning with 1958, crop yields (although varying considerably from year to year) were substantially higher than the previous period.

Between 1950 and 1957, 63 percent of production (products valued at 1957-59 average prices) was derived from cash crops, 33 percent from livestock and livestock products, and 4 percent from perquisites. Between 1958 and 1966 they were 69, 28, and 3 percent, respectively. During this period, net production of livestock averaged $5 per acre of farmland at 1957-59 prices. This ratio has been relatively constant. For the 17 years, 1950-66, there were 10 years when the variation from $5 was less than 50 cents. The production of crops is much more variable, largely because of the variation in yields. Between 1950 and 1957, crop production, at 1957-59 prices, averaged $9 per farm acre. Between 1958-66, although a smaller proportion of the farmland was harvested, it averaged $13 per acre of farmland.

Between 1950 and 1966, based on 1957-59 prices, there were 14 years out of 17 when wheat production comprised 50 percent or more of net farm production. Since 1950, there have been 8 years when beef cattle production comprised 20-29 percent of production. Since 1950 production of beef cattle, the second most important enterprise, has never exceeded the production of wheat. The production of cash crops other than wheat usually was less than 15 percent of net farm production, and the production of all livestock and livestock products other than beef cattle usually was less than 10 percent.

Prices received for products sold averaged 17 percent higher in 1966 than in 1965 but 5 percent lower than in 1957-59. The higher prices in 1966 help explain why--despite lower yields--incomes in 1966 were higher.

In 1964, prices received by these farmers reached their lowest level since 1945; the index in 1964 was 78. Since 1964, there has been considerable improvement in prices received. The year-to-year variation in prices received by farmers tends to be erratic. For example, between 1950 and 1966, the average yearly variation in prices received by these wheat farmers was 8 index points.

From 1950 to 1960, Government payments averaged less than $200

Table 5.--Organization, production, costs and returns, wheat farms, Southern Plains, 1966, with comparisons

Item	Unit	Winter wheat farms			Wheat-grain sorghum farms		
		Average 1957-59	1965	1966 1/	Average 1957-59	1965	1966 1/
Land in farms	Acre	739	830	840	836	909	919
Total cropland	do.	547	616	616	642	700	708
Cropland harvested	do.	346	358	368	389	366	375
Crops harvested:							
Wheat	do.	191	236	241	176	227	262
Other small grains	do.	18	7	8	10	1	2
Corn and sorghum for grain	do.	97	55	52	171	103	76
Corn and sorghum for forage	do.	30	26	24	24	19	15
All hay	do.	10	34	43	8	16	20
Crop yields per acre:							
Wheat	Bushel	20.6	23.6	19.2	20.5	22.6	16.6
Sorghum for grain	do.	26.8	40.0	41.2	27.2	47.2	54.3
Sorghum for forage	Ton	2.8	3.0	2.9	2.2	2.5	3.0
All hay	do.	2.2	2.3	1.8	2.5	2.4	1.8
Livestock on farm, Jan. 1:							
All cattle	Number	39.0	55.0	70.3	34.8	70.4	84.0
Milk cows	do.	2.8	1.9	1.0	1.2	1.2	1.0
Beef cows	do.	12.7	16.7	20.4	9.0	18.2	15.7
Steers, 1 year old and over	do.	5.8	8.3	11.4	7.6	10.8	15.7
Calves, under 1 year	do.	13.4	21.5	29.9	13.0	30.3	41.1
Chickens	do.	67	58	56	37	17	17
Pigs raised	do.	4.3	6.3	0	3.9	6.2	7.3
Hired labor	Day	33	29	28	49	41	41
Total farm capital, Jan. 1	Dollar	83,640	125,390	137,070	95,360	136,000	149,920
Land and buildings	do.	67,800	105,410	114,240	81,110	116,350	126,820
Machinery and equipment	do.	9,580	9,230	10,000	8,900	10,670	10,690
Livestock	do.	4,690	8,640	9,590	4,200	7,420	10,570
Crops	do.	1,570	2,110	3,240	1,150	1,560	1,840

Item	Unit	Winter wheat farms			Wheat-grain sorghum farms		
		Average 1957-59	1965	1966 1/	Average 1957-59	1965	1966 1/
Gross farm income	Dollar	14,471	19,223	19,529	14,031	22,488	24,577
Crops 2/	do.	9,225	8,565	8,601	10,249	10,557	9,682
Wheat	do.	7,193	7,052	7,254	6,410	6,552	6,831
Grain sorghum	do.	1,708	1,321	1,171	3,689	3,902	2,725
Other grains	do.	324	192	176	150	103	126
Livestock and livestock products 2/	do.	3,712	5,377	5,767	2,945	6,332	9,184
Cattle	do.	2,881	4,511	5,235	2,494	5,755	8,521
Other livestock and livestock products	do.	831	866	532	451	577	663
Other income:							
Government payments	do.	812	3,355	4,322	312	4,876	5,244
Miscellaneous	do.	722	1,926	839	525	723	467
Farm expenditures	do.	5,334	8,209	7,983	7,173	10,699	11,846
Livestock purchase	do.	314	1,241	833	1,214	2,516	3,262
Feed and other livestock expense	do.	422	542	528	195	517	593
Seed and other crop expense	do.	466	697	760	542	906	1,122
Machinery depreciation and operating expense 2/	do.	2,733	3,501	3,615	3,395	4,145	4,304
Farm buildings and fences 2/	do.	340	389	411	305	433	450
Hired labor	do.	327	371	373	465	515	539
Taxes	do.	680	1,328	1,323	897	1,485	1,396
Other	do.	52	140	140	160	182	180
Net farm income	do.	9,137	11,014	11,546	6,858	11,789	12,731
INDEX NUMBERS (1957-59=100):							
Gross farm income	---	100	133	135	100	160	175
Net farm income	---	100	121	126	100	172	186
Net farm production	---	100	125	106	100	132	119
Crop yields	---	100	126	109	100	113	111
Production per unit of input	---	100	103	90	100	115	102
Prices received for products sold	---	100	81	95	100	85	102
Prices paid, including wages to hired labor	---	100	108	115	100	103	107

1/ Preliminary. 2/ Adjusted for inventory change.

Note: Information presented here is on an owner-operator basis primarily for comparability between types of farms. Net farm income is the return to operator and unpaid members of the family for their labor and management on the farm and return to total capital. No allowance has been made for payment of rent, interest, or mortgage.

per year on median-sized farms with the exception of 1957, when there were large payments to farmers who participated in the acreage-reserve program. Since 1960, the trend in Government payments has been up. Government payments were about $140 per farm in 1960, $3,360 in 1965, and $4,320 in 1966. Government payments comprised 37 percent of the net farm income in 1966, 30 percent in 1965, and only 9 percent in 1957-59. With the exception of 1956 and 1957, Government payments between 1950 and 1960 averaged less than 3 percent of net farm income, but support prices were higher.

Production of these farms relative to all inputs in 1966 was down 13 percent from 1965 and 10 percent lower than in 1957-59. In general, production fluctuates considerably more than does input.

With few exceptions, the index of prices paid has been increasing steadily for many years. In 1950, the index was 86 (1957-59 = 100). By 1966, this index had increased to 115, 6 percent higher than in 1965. On the other hand, the index of prices received is much more variable. The ratio of prices received to prices paid has been declining for many years (fig. 5), although it increased in 1964 and 1965.

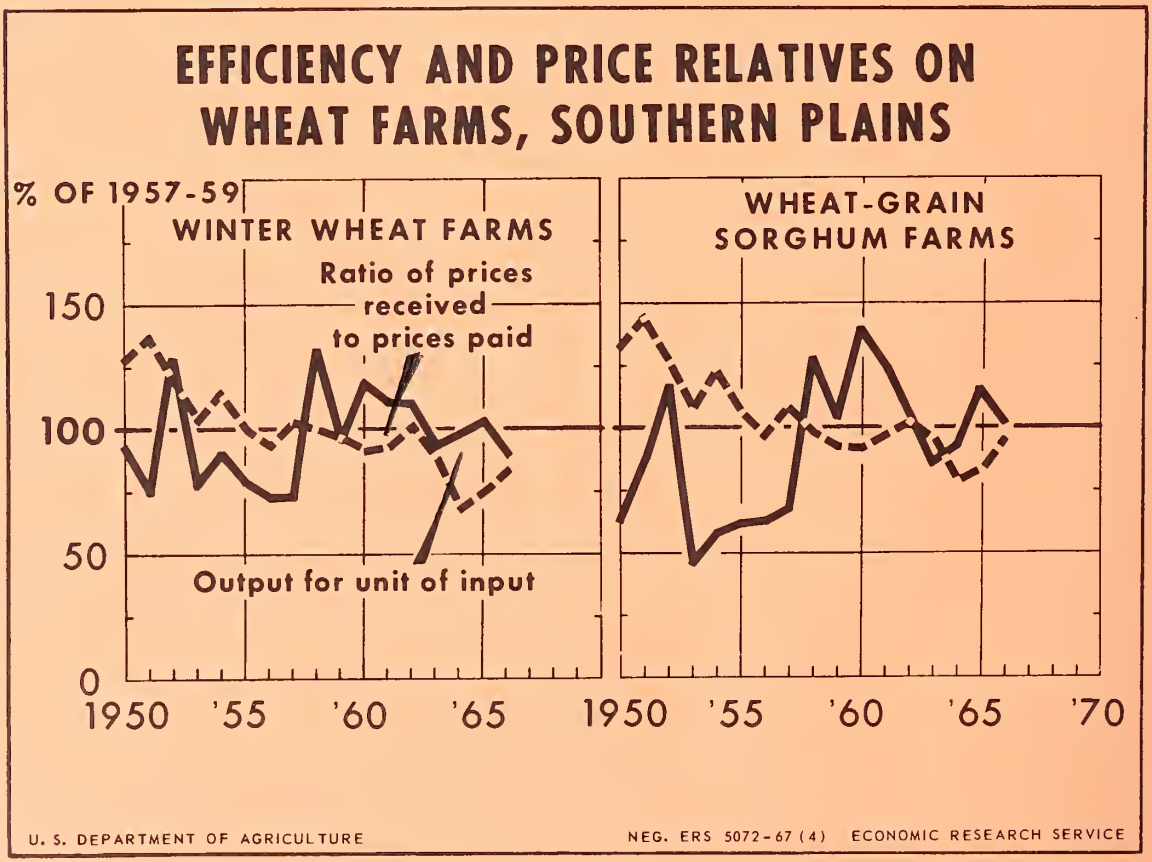

Figure 5

Wheat-Grain Sorghum Farms, 1966

The size of median-sized farms in the wheat-grain sorghum area, like those in all wheat areas, is increasing. They are larger in this area than in the winter wheat area. Wheat-grain sorghum farms passed the 800-acre mark in 1955, 7 years earlier than in the winter wheat area. By 1965, they had passed the 900-acre mark, and the 1966 estimate was 919 acres.

About 23 percent of the farmland on the median-sized wheat-grain sorghum farm was nontillable grazing land.

Farms in the wheat-grain sorghum area have a large acreage in nonharvested cropland. During the last 17 years, from 19 percent of the farm area to as high as 42 percent has been in summer fallow, Government programs, or was idled by crop failure. Some nonharvested cropland may have been used for grazing.

Harvested acreage in 1966 was 2 percent larger than in 1965, but was 4 percent smaller than in 1957-59.

Crops other than wheat and sorghum are relatively unimportant in the wheat-grain sorghum area. Acreage of barley and other small grain was less than 3 percent of the harvested acreage for 12 of the last 17 years; between 1958 and 1962 it varied between 3 and 6 percent. Acreage cut for hay increased in 1965 and again in 1966, with increasing cattle numbers during these years. Prior to 1965, the acreage cut for hay never exceeded 3 percent of the harvested acreage. In recent years, from 1/5 to 3/5 of the acreage cut for hay has been grain hay, and most of the remainder was alfalfa. Corn replaced sorghum on a few farms in the area. Most land in corn is irrigated.

From 1949 to 1966, the acreage of wheat harvested averaged 34 percent of the cropland, while sorghum acreage averaged about 22 percent. No trends were evident in these proportions. However, the ratio of wheat to sorghum varies greatly from year to year. In 3 years out of the last 18 years, sorghum acreage exceeded wheat acreage. These were years of extensive wheat failure and a large part of land in wheat was replanted to sorghum. Over the years, 1949-66, the average deviation in the harvested acreage used either by wheat or sorghum amounted to 7 percent of the cropland.

About 80 percent of the sorghum acreage is harvested for grain and 20 percent for forage. The latter constitutes most of the roughage fed to livestock on these farms.

The index of crop yields (1957-59 = 100) averaged 84 during the 18 years 1949-66. For the first 9 of these years, the crop yield index averaged 56; during the last 9 years, it averaged 111. The yield index in 1966 was 2 percent lower than in 1965, but 11 percent higher than in 1957-59. Yields during the last 9 years averaged almost twice as much as in the previous 9 years. This was the chief reason net farm incomes on these farms averaged $10,331 for the last 9 years, but only $4,438 during the previous 9 years.

Since 1950, about 75 percent of the net farm production, measured in terms of 1957-59 average prices, was from the cash crops, 21 percent from livestock, and 4 percent from perquisites. There is considerable variation in these proportions by years, but no trends are evident. The average variation in production per year on these farms was $3,844 for cash crops and $641

for livestock. On an absolute basis, the variation in cash crop production averaged about 6 times greater than livestock production. Changes in crop production since 1950 are related mostly to changes in crop yields, since acreage harvested has remained about the same, despite the growth in farm size.

From 1950 to 1966, wheat production accounted for 73 percent of the net crop production, and grain sorghum accounted for most of the remainder. Based on 1957-59 prices, net wheat production averaged $6,141 and other net cash crop production, $2,318. For the 17 years, 1950-66, the average yearly variation was $3,517 for wheat production and $1,136 for other cash crop production. For 12 of the last 17 years, the variation in wheat production was similar to the variation in sorghum production. For the other 5 years, the variation was compensating, i.e., when wheat production was high, sorghum production was low and vice versa.

Crop production is one of the chief generators of income on these wheat farms. Other factors causing incomes to rise or fall are either more constant from year to year, or else their effects are compensating. However, due to increased livestock production, net farm income in 1966 was nearly a record high, despite lower crop production.

At 1957-59 prices, beef production on these farms averaged $2,388 between 1950 and 1966, and all other livestock production averaged $468. The average yearly variation was $677 for net beef production and $38 for other livestock and livestock products.

Although these farms had breeding herds, the size of the beef cattle enterprise was maintained in part by the purchase of calves. However, in years when feed supplies were short, the purchase of calves is reduced or eliminated on many farms. From 1950 to 1959, the number of calves purchased on median-sized farms averaged less than 10 head per farm. Between 1960 and 1962, they averaged between 10 and 20 head; and between 1963 and 1966, they averaged between 20 and 30 head. From 1950 to 1959, the number of calves raised on these farms exceeded the number purchased, but since 1960 (except for 1965) the number purchased exceeded the number raised.

Prices received for products sold on these farms averaged 20 percent higher in 1966 than in 1965 and 2 percent higher than in 1957-59. The higher prices in 1966 help to explain the near-record incomes in 1966.

The index of prices received was 15 percent below 1957-59 in both 1964 and 1965. The index for these years was the lowest since 1945. Prices during these years were erratic, and exhibited no upward or downward trend.

Government payments on these wheat farms have increased from less than $100 per farm prior to 1953 to slightly more than $5,000 in 1966.

The trend in the movement of prices paid has been gradually creeping up for many years. In 1966, the index of these prices was 4 percent higher than in 1965 and 7 percent higher than in 1957-59. Total inputs used have been increasing also. In 1966, the inputs used in production were 6 percent higher, although production was 6 percent lower than in 1965. This reduction in efficiency, together with the increase in prices paid, restricted the increase in net farm income.